

# INFORMATION AND THE HUMAN CONDITION

(AT THE WHIM AND MERCY OF CHANCE)

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## Our journey so far

### *Information is existence*

And so, as we come to the end of our journey, it is time to review our findings and reflect on where we have been. We have investigated the nature and wonder of *information*, having been moved to do this by our experience with information in computers. It is a study we hope others will follow. We have seen how information comes into our life, how it records all our thoughts and deeds, guides us, and plays a vital part in all that we think and do. Information enables the human race (and all species) to do remarkable things. The only way we know we exist is by information. It is so close to our existence that, at times, we have equated it with life. It has led us, at times, to think about the purpose of life. In Chapters 2 and 5, we referred to Artificial Life (ALife) and the views of “Evolutionists.” We asked, particularly in Chapters 11 and 13, *why* was life created. Why are we here, and what for? There are some of us who *like* to believe that, in the *very, very*, beginning, life began with a divine spark. There are others, perhaps alas in increasing numbers, who believe that life has come about by chance. *Stewart and Cohen*, in an interesting book called *Figments of Reality*<sup>71</sup> to which we refer later, subscribe to this view. They try to show how life could have started from inorganic matter. In that great debate, we are bystanders. To the scientist we say: “You are obviously very competent at your work. We hear what you say. We admire your search for symmetry and your meticulous research. We can see that your calculations take us back to something you call Big Bang. But, no matter how far back in time you take us, we will still ask you: “but, what came before that?” Believers in the Divine miracle do not face quite the same question, because they argue that God has *always* been present. But, in both cases, we still have no answer. What are we, and Why? These are Life’s great questions. We do not argue for or against religious beliefs. They are acts of faith, private, and beyond our remit to question. Faith is a tremendous source of strength for many people and, unless and until there is an irrefutable philosophy to replace it, Faith should not be challenged. People find enormous relief and comfort in religion. To deny them this belief does service to no one. We do maintain, however, that no matter how the universe began

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71 Ian Stewart & Jack Cohen. *Figments of Reality*

(and no matter what came before it), all human reasoning, and all that we can ever know and do on earth, begins and ends with *information*. Information is foremost in all existence. It is, first and last, the principal object of our study.

### ***Reality and Unreality***

In Chapter 1, we said that information is as near as we can get to reality. Information and reality are, we have said, virtually inseparable. Not until information about something has passed through a human mind is that something *known to exist*. It is a fact now recognised in most scientific theory. We will look at this remarkable fact a little closer, in a moment. Another notable property of information is that it is not subject to the normal laws of physics. It can *not* be passed around like a parcel. When information is transmitted electronically the original remains. Similarly when we tell someone something, we both know it. Information may be replicated in this way without end. Different versions of it may be produced merely by thinking about it; but once said it cannot be unsaid. We also noted that, in order to have meaning, information has two components. One is the passive component that we may call data. The other is the active component, typically the mind plus a language, which basically we may call “intelligence.” This latter component works on the data, turns it into information, and gives it meaning. We marvelled at the versatility of the human mind and the way it copes with limitless amounts of this information. More than this, information comes to us from all directions, on any subject, at any time. We accepted that information is part of a hierarchy comprising data, information, knowledge, wisdom, and truth. In Chapter 2, we saw how information is used to create imaginary worlds that we call *virtual reality*. This is a very useful device for solving problems, for scientific study, for mental diversion, as well as for hypothesising about the origins of life, although it has some dangers. We noted the power and value of randomness, but also the 50:50 phenomenon of randomness which can be so troublesome when we need to make decisions. We speculated on universes having less than, as well as more than, three dimensions. We thought that there might be an important and intriguing fourth dimension between the atoms of matter and that this could explain some of life’s puzzling phenomena. We also looked at our concept of time. Already, we could see that much of our information comes to us at any time, and that it comes to us by chance.

### ***Simplicity***

In Chapter 3, we discussed the valuable concept of nested sets of data. We saw how keeping data in nested sets can help to speed up access to data, manipulate it, and discover new facts; bringing us new knowledge. We described a simple language of, ANDs, ORs, and NOTs that could be used on these sets, to pin point wanted information. We noted that there are many kinds of language besides words, and that the way language is used affects not only information but also our emotions, the public face, and the human condition. In Chapter 4, we compared people with computers and in both we noted a natural tendency towards complexity in information. However, in both the computer and our minds, if we want to make best use of information we have to keep it simple, tidy, and in good order. If our information is complicated, our minds and lives will also be complicated. If we organise our information simply and efficiently, we usually express ourselves properly and feel happy about it. When we are economical with words, we use them wisely. We do not waffle. We are in control. Simplicity simplifies

problems. There is less chance of things going wrong by accident. There is art in simplicity. It is an art we need to develop. This advice is true for ourselves, our minds, and for any system that we will ever have a hand in developing.

### *Infinity of What's and Why's*

In Chapters 4 to 9, we looked at some of the infinite number of what's and why's that we continually meet with in computing and in our minds. In Chapter 5 we wondered whether computers, as they take on more and more human work, might one day replace us. In Chapter 6 we suggested that human memory might be held in particles of energy. We called them *microdots*. Microdots would be capable of holding our memory and being recalled and worked on in the mind, just as memory is in a computer. Particles could help us to *see* "pictures and images" in our minds. Like other particles with their speed and fleeting properties, they might have *non material* or *metaphysical* connections. In Chapter 7, we speculated on the mind's methods and structure. We believed that two fundamental capabilities of the mind (that we first mentioned in Chapter 1) are the making of abstracts and analogies that go back to our earliest beginnings. They are skills that we once used to find food and to warn us of danger. They are now used however in much more sophisticated thought. In Chapter 8, we listed what we believe are proper functions of the mind. All of them, from ordinary thinking and remembering to the amazing mental acrobatics of the mind that we call genius, depend on information. In Chapter 9, we looked at dreaming and what it could tell us about our mind and memory. We were particularly interested in the subconscious that seems to have so much to do with our dreams. We thought that dreaming is a very natural function. The recalling of dreams could be good for our health and well being, although again we noted that what we dream about seems to be largely a matter of chance.

### *And many other questions*

In the remaining chapters, we asked many questions about the far reaching effects that information has on our lives. We looked (in Chapter 10) for an explanation of the causes of Déjà vue and Precognition. We were not categorical. We concluded they were harmless experiences. As in dreams, they are examples of "*stray*" information finding its way into unusual channels of the mind. More seriously, in Chapter 10, we noted that when our minds become over hyperactive, our memory or its mechanisms may be damaged. We are then victims of chance. The effect on our minds can be devastating. We can become ill, mentally unstable, and bereft of common sense and reason. In Chapter 11, ranging from innocence to evil, we looked at a darker side of information. In this category we included false precepts, deception, ulterior motives, bewildering technology, vulnerable systems, fraud, the occult, the esoteric, and the taking of drugs. All of them depend on the manipulation of information. We could see that, over centuries, humanity has often been humiliated and degraded by information. Terrible crimes have been committed in its name. In Chapter 12, we looked at the information we have on Spiritualism, Ghosts, UFO's, Extra Sensory Perception, and other strange phenomena. The tools we have for exploring these phenomena, and the paranormal in general, seem to be woefully inad-

equate. Previous explanations have not been very convincing. Often, they are outrageous and only add to our scepticism. In Chapter 13, we realised that much of our information (a fact that we had begun to note in Chapter 12) is an illusion. Illusion may be due to a shortcoming in our perceptions (90% of what we see is already preconceived), imagination, pretence, and *self* fantasising. In Chapter 14, we ventured to show how all information, good and bad, comes together and coalesces in Society. We noted how, the divisive 50:50 factor of Chapter 2 intrudes into all our affairs, often leading to litigation, dividing people, and threatening democracy. Undoubtedly, the human condition (determined as it is by information) depends on chance and where we happen to be when information arrives. As any “philosophy” should, we have asked—Why should all this be? Why are we here at all; absorbing, and reacting to, information as we do. What is the purpose of it? Are we just pawns in a game of chance and accident, without any aim or purpose, individually sliding into oblivion? Or are we part of some grand design and master plan, details of which at present are denied to us? For more of our views on this great puzzle, we await the end of the chapter. For the moment, we will look at the tyranny of chance that decides what information comes our way and what effect it has on the human condition.

### **Everything is information**

#### ***Be all and End all***

Whatever our views and speculations are about information, whether they are based on fact or fancy, there is no denying that in every single thing and concept there is information. As we noted in Chapter 1, *in the beginning was the Word*. The beginning of information in our lives is DNA. It is a chemical blueprint of life; it is the basis of all living matter. It is our *Be all and End all*. Like the remarkable Universe in which we find ourselves, information may be friendly or hostile. Sometimes, it is neutral and gallingly disinterested in us. At other times, it is a warm and precious friend to be cherished. At such times, we want to know it more deeply. We would like to share with it our innermost hopes and aspirations. Yet, as individuals or in groups, we have little control over the information that comes our way. We are at its mercy. We are victims of chance. We do not choose the Universe we are in, nor in what particular part of it we are born. However, once we are here, everything we do depends on information. We can use information to do great things. We can use it for the benefit and well being of ourselves and others. Or, equally, we can use it to cause untold suffering and misery. We may use information to obtain great knowledge and wisdom. It may still not be truth, however. That so often eludes us. Even when we think have truth, and have held it to be so over millions of cases, it can still be proved *not true*; by a single event. Karl Popper demonstrated this very well, as we noted in Chapter 11.

#### ***Existence through the mind***

For each of us individually, everything exists only by dint of our mind and memory. In order for us to be sure that something *exists*, there first has to have been information about it somewhere in someone’s mind and memory. Memory (q.v. Chapter 6) is the basis of our consciousness. This is why *human*

*memory* has such an important part in our study. All that we know about anything, all our existence and experience, is by virtue *only* of information that in some way has passed through *human* mind and memory. Just as “*the observer*” plays a vital part in theoretical physics, so the human mind plays a vital part in knowing what “*exists*.” We know of the existence of anything, even ourselves, only by means of information in our memory. It may be information just perceived and lodged in our memory, or it may have been put there a long time ago; but it is information in our mind. It is part of the information we acquire, from birth, through school, youth, occupation, career, social activity, mating, marriage, family, children, civic responsibilities, illness, bereavement, right through until the moment of death. The information or memory in our minds describes our happiness, pleasures, anxieties, restlessness, fears, hopes, and grief. It reveals our innermost desires, our disappointments and surprises, our fads and fashions, our longings, sighs, and dejection. The adventures and discoveries we make, and even transcendental moments of the spirit we sometimes enjoy, are all the stuff of information. They are all part of the information experience. They are our consciousness. They *are* the *human condition*. Information is not just inseparable from our existence. It is *synonymous* with it. Information then (as we have said) exists only when somewhere, somehow, it has travelled through a human mind. We may feel, and strongly suspect, that there is other information, outside and beyond the human mind; but *suspicion*, in this case, is all we have. We may assume that there is other information. We may assume there is life on other planets. But, that is as far as we can go. This is not to say, that things about which we have no information do *not* exist. It is, only if and when these things are *discovered*, and are known about in some human mind, that we are *aware* of them. Only then do we have information about them and can we be *sure* that they exist. Information (or at least the data behind it) is where we begin, and so does everything else.

### ***Collective information***

Information then is at the root of all that we are, do, and say. Not only this, but information encompasses everything we know and hear about,—collectively and individually, great and small, the good, and the bad. Arguably the three most awesome *events* for the human race in recent times are (in reverse order) the development of *Nuclear energy*, the discovery of *DNA*, and the amazing surge in *Information Technology*. Nuclear energy, if properly controlled, has the potential to provide all the energy and power the human race requires to sustain itself. It, unfortunately, also has the potential to destroy us all and to reduce large areas of the Earth to ashes. The second most important “*event*” is the discovery of *DNA* and its “*book of life*.” This, together with genetic engineering, gives us the means to change the human species out of all recognition. It could have huge beneficial consequences like curing disease and infirmity. It could even, it is said, avoid us having to die. However, it also presents us with grave moral dilemmas like *who* determines what a perfect human being is and *who* decides who is to live and who is to die. What could be the consequences of human cloning? If things go wrong we could find ourselves among hideous monsters, and what would happen to them? But, the greatest *development* of all, because it subsumes all the others, is *Information Technology*. It is “*The Word*,” the one development that makes all others possible. Many, if not all of the tremendous advances made in Science and elsewhere in recent years have occurred because *Information Technology* has been there to help. Computing and communications, to which we continually refer, are fundamental to progress. Everything we do is dependent on information. The ways in which we use it (for good and ill) are awesome.

### *Personal information*

Collectively the effect of information on the human race, as we have said, is *awesome*. But, even at the personal level, the effect of it on our lives may also be turbulent and disturbing. The chance release of a piece of information to some people may be trivial, but to another person it may be as devastating as a nuclear bomb. Through the post, on the radio, the telephone, the mailbox, or even hearsay, we sometimes receive items of news that strike at the core of our being. It may be news that challenges our innermost cherished beliefs. It may be news that leaves us, as if we have a hole in the pit of our stomach, empty and drained. All that we have believed hitherto may suddenly seem shattered and demolished. Our faith in someone or something may be destroyed. Life suddenly loses its meaning. Even when not so lofty, our feelings may still be emotive. The information may concern our personal standing, our lifestyle, the workplace, the withdrawal of some facility, an increase in prices, interest rates, the state of our bank balance, or any personal matter. Similarly information that describes us, our reputations, or our misdemeanours, may also be emotive. More information is held about each of us than ever before; in National Archives, County Hall records, Police files, business dossiers, newspapers, bank statements, credit card accounts, the local supermarket, the grocer's, as well as in personal e-mails, letters, and other people's chat and gossip. It is still growing. The effects of all this on us may be imperceptible at first, but they could be indelible. Once information has "*registered*" with us we are at its mercy. There is no knowing how it will develop, and where it may lead. Memory can never be totally erased. We can attempt to ignore it, use it to advantage, and ameliorate its worst effects, but we can not delete it. It is a part of us. It is lodged, for ever, somewhere in *our* mind if not in other people's.

### **Information's changing nature**

#### *Amazing stampede*

Information has always been important in our lives but, with the arrival of modern Information Technology, its importance has received an unparalleled boost. The very nature of information is changing, and so, with it, is the human condition. We looked at some spectacular IT developments in Chapters 4 and 5. It was these, as well as the beguiling interest we have in dreams, that brought us to our present study. The idea that information has active and passive parts came to us because of the way that computer programs work on data. It was the nature of computer data (that it consisted of magnetised bits and bytes) that led us to wonder whether human memory might also consist of particles. We see many similarities between the way our minds handle information and the way that we deal with it in computers. This is not surprising since computers after all are designed by people. The most striking thing however is the rapid way that computing and electronic communication has moved into so many aspects of our lives. Even during our study, almost unbelievable advances have been made in the technology. Under IT's umbrella, there are no places where computing can not go. Whereas the full effect of earlier inventions (like the pen and the printing press) took decades and even centuries to be fully felt, IT has swept everything before it. It is an amazing stampede. People have not had time to consider where it is leading. It is like the days of a Gold Rush. There is fear of being left behind. There

is a thirst for new information and new ways of obtaining it, as if indeed it was gold. People who normally are reasonably laid back, and content with information's natural flow, have suddenly become *info maniacs* searching the ether for information that others have not yet found. It is a market full of boundless energy and interest. It is a market in which people peddle not only endless information, worthwhile and spurious, but also unlimited varieties of merchandise, service, and property.

### ***Unstoppable invention***

The speed of modern day computing and communications is astounding, but more advances are to come. It is not just speed that is remarkable. We are finding new insights into the inherent properties of all things. We are finding new striking ways of presenting information. The computer has breathed fresh life in how to describe and do things. It has extended the depth and scope of research and has opened up new vistas in the analysis and comparison of data. We can now move into completely new areas of interest and make limitless searches through remotely connected features and facts. These tasks were previously laborious and time consuming, if not impossible. We can only admire the tremendous work and patience of our forbears who once compiled by hand, dictionaries, lists of chemical properties and compounds, biological charts, mathematical logarithms, and so forth. Now it is a simple task to sort whatever information we have, including long lists of DNA codings and astronomical data, in microscopic detail until they almost speak to us. We can apply intricate formulae to our data in seconds. We can print it in many different orders, study it, reveal new connections, and make new discoveries. Not only are we able to re-order and re-arrange our data in an instant but, with every single look at it, we obtain a better insight into problems. We see things in different lights and produce better and better correlation and indices. Many things come to us by chance. We do not set out to find them. We then display our findings in dazzling ways. Presentations are impressive. They can be animated and *virtually* brought to life before our eyes. Such is the power that computers, communication, and new I T have given us. We cannot but wonder what the great philosophers of the past would have thought and said had they had such powerful tools to call on.

### **Not yet Utopia**

No one would deny that computers, communications, and their associated peripherals, have brought tremendous benefits for everyone. We can now do many things that previously were impossible. It is exciting to obtain rare and fascinating information just by clicking on to a computer. It is wonderful to be able to contact someone anywhere in the world simply by pressing a few keys on a "mobile" telephone. As with all inventions, however, there is usually a price to pay. Not all attractions are without drawbacks. In Chapters 3 and 11, we noted that the different formats and codings of computers can make it difficult to maintain historical records. Compared with the changeless form of a book, differing computer formats and codings can be a headache. In another context, in Chapter 5, we regretted that some of our nimble mental skills were under threat even from the humble PC. This was because computers can go back, if we wish, immediately to any previous point in our thinking. Previously our minds were quite good at this; but, now, they are less so. With a computer, it is child's play. In Chapter 7, we regretted that instructions for using many products were now written not in words but in inter-

national hieroglyphics that are a part of multi-national trading. In Chapter 11, we looked at what we called some of the *terrors* of technology; and particularly at the opportunities it gives to criminals. In Chapter 14, we could see the support that the Internet and instant communication gives to populism, plebeian culture, anarchy, and even terrorism. At the same time, we noted the unwelcome and impersonal anonymity of IT. Authority could hide behind the system and in its own (officious) way terrorise the citizen. IT, with its new jargon and curious expressions, was changing our language. It could even be changing our species; leading us to live communal lives like ants and termites, instead of the previously individual lives we are used to. By replacing and doing work without people, IT often lacks the human touch. It can divide people for all sorts of reasons; sometimes it seems just for the fun of doing it. We are still a long way from Utopia.

### ***Regrettable impatience***

One sad development that comes with IT is our increasing *impatience* to do things at the *click of a button*. We believe we are entitled to have information on any topic and to have it immediately. If we do not get immediate attention we are irritable and difficult to get on with. We plan daily schedules on the assumption that technology will work. If it doesn't, and there is a glitch or a temporary breakdown in operations, we become agitated and annoyed. Our irritability spreads to other things. We often feel unable to accept situations and get on with something else. We rail at other people's incompetence. A feeling of helplessness adds to our anger, but anger is not excusable. If we have difficulty with technology (as we sometimes do) and we find that instructions for using it are inadequate (as they often are) we get frustrated. We become snappish and testy. Our bad temper is aggravated because there is no one to complain to. We converse only with an *impersonal* PC, or some automatic deadpan system which is impersonal, unfeeling and robotic. We encounter the same monotonous machine like treatment when we make telephone requests for assistance. If we can afford to wait long enough in a telephone queue, paying quite dearly for the privilege, we are obliged to work our way through a lot of unrelated topics of some ill conceived menu. We may eventually speak to a living person; but, even then, it is by no means certain that our efforts will be worthwhile. Possibly, deep down, we realise that we are being unreasonable. Instant gratification is not after all one of humanity's best aspirations; but certainly, taking everything into account, we are not entirely to blame.

### ***No escape from contact***

When telephone and telegraph first appeared, people were amazed that they could communicate instantly over long distances. Suddenly, information could be passed over vast distances and communicated in almost no time at all. In those early days, telephone and telegraph seemed almost supernatural. Communication, however, was still from point to point. People still had to be at, or go to, some appointed place to send and receive their messages. With new IT and radio, the situation is vastly different. We do not have to be at some fixed point, in the home, the office, or elsewhere, in order to communicate. Now, with portable equipment, we can communicate instantaneously with others from wherever in the world we or they happen to be,—in the heart of a city, on a mountain top, in a railway carriage, on the beach, or in the middle of a field. Possibly (but more about this in a moment) we are

unwittingly using a new dimension in Space. Not only this, but distances have shrunk. The Earth has too, and so have we. Senders and receivers can if they wish use their computer to check, manipulate, and work on their information while still in contact. In another sense, however, perhaps we have lost the magic of distance. Before IT, children went a hundred miles to the seaside for their summer holidays on a magical adventure. They left the worrisome old world way behind. As adults, we could take a holiday, say in the remote hills of Nepal; and, at least for a time, set aside our earthly woes and worries. We could commune with Nature. We could enjoy a spiritual experience. Nowadays, with a mobile telephone in the back pocket, that magic has gone. Getting close with nature is harder to achieve. Within seconds we are brought back to earth, to all the troubles and fixations we wanted to forget. There is no escape for us. A letter from India or the Far East, that previously could take two or three months to arrive, is here in an instant and may be dealt with in minutes. Information at the finger tips is not an unmitigated blessing. Our lifestyles, and maybe our spiritual yearnings, are turned upside down because of it. We could be becoming a different kind of being, something not quite human.

### The growth of knowledge

#### *To know or not to know*

Dr Johnson, of dictionary fame, once said that there were two types of knowledge in the world; knowledge of a subject itself and the knowledge of where to find it<sup>72</sup>. With the powerful search facilities of IT, Dr Johnson's observation is more relevant than ever. If we can be confident of finding information when we want it, we don't have to keep it immediately in front of us. Hopefully we can keep the pressures at bay. The alternative is frightening. New technology simply overwhelms us with information. Wherever we turn, there is an avalanche of information waiting to fall on us. More than ever, we realise that the more we know the more there is to know. Not only do we have volumes and volumes of information, but it is presented to us in ever more persuasive, subtle, and arresting ways. We are inundated by it. We can't escape. We are afraid to skip any of it because we feel it may be important. Examining all the information we are exposed to and having to arrive at a decision on what to do with it; is at times agonising. It could be, as we suggested in Chapter 7, that on some particular issue we are trying to persuade all our *microdots* to point in the same direction. It could be a cause of the pain we feel. Even putting information away somewhere, to look at it later, does not always ease the problem. We understand why people sometimes want to "opt out," "stop the world," and "get off" the whirligig they feel they are on. We are frustrated by having so much to think about. With apologies to William Shakespeare, we may perhaps be excused for thinking of Hamlet<sup>73</sup>;

To *know*, or not to *know*, that is the question:  
Whether it is nobler in the mind to suffer  
The slings and arrows of relentless knowledge  
Or to close one's eyes and ears  
and through *ignorance*, find bliss.

72 Samuel Johnson. Boswell's Life of Johnson vol. 2

73 William Shakespeare. Hamlet, Prince of Denmark

It is a valid question. After a hard day's toil in the workplace, it is depressing to go home to find so many more woes and worries waiting for us; to have to wrestle with yet more information; and to be pressurised into making yet more tedious decisions.

### *The curious mind*

Tempting as it may be “to *stay with* the knowledge we have and not to ask for more,” it is not however a practical proposition. Despite the pain we expressed in the previous paragraph, it is a paradox that we crave for more. To take in information is as vital to human life as it is to take in the air we breathe. It is a necessity. To refuse information is to die. To stay put and wallow in out-dated knowledge would be the same as inhaling stale and suffocating air. It is an impossible option. Both our minds and bodies are geared to change and to taking in sustenance. This sustenance includes information, no matter how unimportant it may seem. All creatures have an instinct to acquire information. It is the instinct that began with the need to look for food and drink, and to ward off danger. It is part of the need to survive and reproduce in a hostile environment. But now, far beyond safety, human *thirst* for information is one of the most remarkable characteristic of our species. We have developed a curiosity and a desire for knowledge that goes far beyond bodily needs. Most of us now have a fascination for information and new facts, material and abstract, that has little to do with the intake of food. News broadcasts and newspapers are irresistible. We try to keep up with happenings abroad, new fashions and styles of living, other people's activities, new discoveries, new inventions, and new ways of doing things. There are many interrelated reasons for this craving. Not the least of them is personal ambition and the satisfaction of knowing what is going on in the world. We are *curious*; we hate to be left behind; we want to belong and be a part of things, to make good use of new products and gadgets, to gain financially, to better our understanding, to improve our status socially and at work, or perhaps merely to widen our horizons and even our philosophy. Peoples all over the world are anxious to acquire knowledge and skills. Their desire is good but, as people acquire new knowledge, they want to use it. They want good jobs, and to prosper. Therein is the problem for society. More and more peoples all over the world are continually competing for employment, for it is that alone that ensures a tenable living. *Evolution of the curious mind* is the subordinate title of the interesting book by *Stewart and Cohen* to which we referred earlier. The mind is indeed *curious*. Accepting many meanings of the word, the mind is inquisitive, eager to learn, strange, and mysterious.

### *Macro and micro worlds*

In Chapter 6 we reasoned that, if the Universe is infinite, there are logically as many things larger than us than there are smaller than us. In one direction there is the vast area of Space and distant galaxies and in the other direction there is the world of Quantum mechanics. Possibly there is a connection here between our concepts of Zero and Infinity that we will have a last look at, towards the end of the chapter. For the moment, this distinction between *vast* and *minute* reminds us of the Macro and Micro instructions in computers that we discussed in Chapter 4. In computers, *Macros* are the names given to large numbers of detailed instructions that ordinary users are not normally aware of. In our daily lives, we unwittingly use Macros all the time. We do most things with very little thought for the

*vast* number of *minute* operations that are necessary to do what we ask. We breathe, walk, run, sing, and dance, and carry out most bodily functions without a single thought for all the information and detailed instructions that the tasks entail. Similarly, we seldom give a thought to all the “*micro*” actions we set in train when we turn on the tap, the electric light, the radio, or television, order a newspaper, make a telephone call, drive the car, or in fact do anything. We do so much by the “*press of a button*.” A very simple but excellent example is the storage of telephone numbers in telephone hand sets. We press a single button and a long string of digits is automatically dialed. We live in a *Macro* world. We issue Macro commands for everything we do. Our commands set in train detailed processes that have been put into place previously (possibly very laboriously over a long period of time) by Nature or ourselves. To examine these minute micro processes and check them in detail every time we invoke them would be far too arduous for words. It would make modern living impossible. As Ludvig Wittgenstein<sup>74</sup> pointed out in his writings, we (and all animals for that matter) seldom have detailed knowledge of our actions or the theory behind them. We just do them! In the book, “*Figments of Reality*” (to which we have referred), *Stewart and Cohen* describe this minute microscopic detail as a “*Reductionist Nightmare*.” It is an obstacle to comprehension. It is equivalent to moving permanently in the lowest gear; when we should be in a high one. It may be necessary for specialists to know and understand the microscopic detail of their subject but, the ordinary person just wants to accept it. We *have to* think and act on a macro scale or we would never achieve anything.

### ***Honesty and correctness***

Way back in Chapter 1, and subsequently, we have observed that information is indestructible. Once something has been said, it cannot be unsaid. It may be retracted but the original remains. For this reason alone, one would think, we should take care in all that we say. Information is such an important part of our existence, it follows it should be correct and not misleading. We wrote earlier of the value of succinct information. In Chapter 3, we referred to ambiguous and worthless information as “*duff gen*.” In Chapter 11, we said “*Teach the children well*.” We were aware of information’s role in dishonesty, deception, fraud, dabbling in the occult, and so on. In Chapter 14, we stressed how important information is in all ages in life, from the time we start learning, through schooldays to adulthood, and whatever age we reach. We should never take information for granted. The meaning of any information depends on the history and backgrounds of the people who exchange it. New information has to live with the old, and with information that people happen (by chance) to have in their minds. It is not always an ideal combination. Despite these difficulties, it is important that any information we pass on is factually correct and free of bias. Passing on misleading information whether carelessly or by intent is an affront, if not a crime. When false information is broadcast to millions of people it is easy for it to be taken as fact. Even information such as the time of day on a nearby clock, or the dates and times in a bus or railway timetable, should be dependable. When we hear gratuitous remarks by radio and television announcers, or see information on signposts, travel indicators, and so on, we have a right to expect the information to be correct. Television reports should show live date/times “*on screen*”; especially if there is a chance they are replays. It is morally wrong to display or impart misleading information whether this is intended or not. Incorrect information (*duff gen*) can be nauseating and dangerous. Consequences of

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74 Ludvig Wittgenstein. On Certainty

passing on wrong information could be as disastrous as walking into a hidden object on the road, or falling into a hole in ground. We should always treat information with utmost care.

### Harmony of body and mind

#### *Working together*

It has long been tempting in philosophy to think of body and mind as being fundamentally different from each other. We see and feel the body. We know it is *material*. We know that its earthly fate is to disintegrate and disappear as does all matter. We cannot see the mind. It may be *material* and *non material*. We don't know. It could be that when we die our *non material* part survives us. It is this possibility that led to the dualism of Descartes, and before him of Plato that we referred to in Chapter 1. Indeed it may seem that, in Chapter 7, we too subscribed to the same theory; because we compared the Body with Machinery and the Mind with Electronics. The separation of concepts is not of course wrong. It helps us to analyse our problems in depth and to determine how things work in detail. It enables specialists to create areas of excellence and expertise in respective fields. To be an expert in every field has long been impossible. However, no matter how different Body and Mind may be (and, indisputably, in one sense the material and the non material could not be more different), there is every reason for body and mind to work together. Separation of concepts should be a temporary device. Body and Mind still depend very much on each other. They not only *talk* to each other; they are inseparable. Memory particles or microdots, as we note in the next paragraph, could be a good example of this strong relationship. We are continually finding in this wondrous universe that, the deeper we look into the separate parts of anything, the more blurred the lines between them become. Chemistry and physics, once thought to be quite separate, are now seen to converge. It may be argued that ultimately everything is connected, and is "*One*." It is a theory propounded by great thinkers from ancient times. In a more modern setting, and in a delightful book<sup>75</sup> entitled "*Molecules of Emotion*," Candace Pert produces unassailable evidence of how our mind and body work closely together. We will be reviewing our thoughts on emotion in a moment but, if we are to be stable, viable, and useful human beings, we can see how important this co-operation of our Mind and Body is. Both have access to all parts of our being, and particularly to our memory and intelligence. They influence each other. Any idea that they ignore each other, or that they should ever fight for control of one over the other (mind over matter or matter over mind), is contrary to nature. Harmony between them, as between most things, is essential for stability and progress. Both could still have *non physical* attributes, however, as we have frequently mooted.

#### *Memory as particles of matter*

Throughout our study we have suggested that memory could be made up of particles of matter. The particles would be accessible by both mind and body. It would be a good example of mind and body working together. Particles could be both *material* and *non material*. In Chapter 6 we called them

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75 Candace Pert. *Molecules of Emotion*

*microdots*. We thought that sometimes they might get trapped and fragmented in the body, and be the cause of certain bodily complaints and pain. The pain might be relieved by intense brain activity that dislodges the particles. In Chapter 9 we suggested that, when we dream, brain activity reaches out to both trapped and non-trapped microdots. Sometimes, the trapped microdots might be just fragments of memory. They might then be responsible for much of the nonsense we *see* when we sleep. Similarly, in Chapter 10, we referred to a possible link between memory particles and our health. It seems possible that *microdots*, especially when they are trapped in the body, could be a source of mental illness. In later chapters, we went on to suggest that microdots might explain many other phenomena that we meet in our lifetime. We refer to phenomena such as, Spiritualism, Ghosts, Out of Body experience, and projections of the human body, illusion, and so forth. We think of each person's "world" being defined by memory particles. Whether for good or ill, the only way in and out of these individual *worlds* would be through these particles. Many people might have similar particles but, in each and every mind, the exact *interpretation* of them would be unique. We can only know what our memory lets us know. Whatever our mind tells us we believe, even if it is crazy. We have no alternative. This is true even when everybody (other than us) believe the contrary. This does not mean that our beliefs can never be changed. By self discovery, persuasion, hypnosis, drugs, or whatever, our beliefs are still open to change. When there are so many different backgrounds to people's thoughts, and so many different ways that thoughts are created, it is not surprising that agreements between people (and nations too) are often hard to come to. The possibility that memory is composed of particles raises an outside chance that one day we might be able to isolate them and move them physically from one mind into another. This was a fear we expressed in Chapter 11 (*Changing the particles*). For the single individual, such a deed would be as violent as an atomic explosion. Like a nuclear chain reaction, the consequences could be catastrophic. At the end of the chapter, we will have a final fling in support of memory *particles*. We will suggest that they could have a home in between the atoms of matter, even between the atoms in our own bodies. We have often referred to this space as the fourth dimension. If true, it could affect our lives more than anything even we have envisaged.

### ***Building up intelligence***

In Chapter 5, when we looked at some people's attempts to personify the computer, we found it difficult to define intelligence. Sometimes, things that happen by chance seem to have intelligent reasons behind them. It is as though throughout the universe there is an intelligent force that is constantly trying to keep things in balance. Existence is maintained and prospers when all surrounding forces are in a steady state (q.v. Arthur Koestler's holons of Chapter 4). Certainly, in such an environment, certain chemicals seem to work together and create stability. For living organisms, a steady state leads to a safe state and one that is conducive to replication and re-production. In us, this is seen in our DNA. In the case of plants, trees, and shrubs, they "*know*" that water is vital to their existence. They send their roots deep into the ground with irresistible force and determination. Even substantial buildings subside and yield to their force. It is hard to deny that the instinct to survive and propagate, even to the extent of causing damage to buildings, resembles intelligence. There is reason behind what is happening, but surely no believes that plants knowingly attack our buildings. At what point *reason* becomes *intelligence* is obviously debatable. To suggest that this is how human intelligence (indeed human life) has developed may seem like Science Fiction but, considering the billions of years over which we are dealing,

the theory is at least plausible. We have a clear case of matter re-acting to information. Certainly many creatures besides us exhibit this form of intelligence. For an imaginative mind, there are many ideas on how life and intelligence may have started. As we noted, when we looked at our instinctive actions in Chapter 8, we don't necessarily need brains in order to something. Some of our ideas may seem outrageous. We will look at more towards the end of the chapter.

## Self conscious beings

### *Self identity*

In Chapter 1, we said that information is the essence of existence. We said that existence is dependent entirely on what our minds tell us. This is our memory. It defines us, our identity, and our consciousness. We can have no consciousness without memory. In Chapters 4 and 5, we asked if it was possible to program consciousness (and self-consciousness) into a computer. We accepted that there is no difficulty in programming a computer to be *aware*, and to determine how situations may change and differ one from another. However, to be aware of something is not the same as being *conscious*. A computer program may be aware that conditions are being met, but consciousness means being *alive*, awake, sensitive, understanding, and able to react spontaneously to the changing and unpredictable nature of *everything* around us. These are biological capabilities of a human being. They and their associated emotions can not be *felt* by a computer. We have stressed throughout our study that feelings and consciousness are products of human mind and memory (in conjunction with the body). Certainly a computer may put on *displays* of emotion, but these are no more than a show, an interpretation, and a manipulation of information. They are hollow imitation. The displays may be vivid and may evoke strong emotions in an observer, but they do not mean that the computer is *experiencing* emotion, nor is it *conscious* of anything. Beyond consciousness we have *self* consciousness, which we discussed in Chapter 7. This is even more clearly present in people and not in a computer. Being self conscious means being aware of our identity in the midst of all that is happening. It depends on, and is allied with, intelligence, free will, and all that one knows about oneself (i.e. our personal memory). Self conscious information is volatile and unreliable. It includes knowledge of our innermost thoughts as we know our own body and it is very different from anyone else's knowledge. Self consciousness is formed out of our own background, growth, and entire experience, from birth onwards. It includes our sensitivities, general beliefs, likes, dislikes, and emotions. It requires an awareness of, and contact with, a *non material* spirit and soul that we discussed in Chapter 5. When we are self conscious, we see everything that goes on in the world in relation to ourselves. These qualities are entirely human and not definable for a computer. No computer program can generate them. Whether intelligent self consciousness can develop according to *Stewart & Cohen* out of the *inorganic matter* of a computer, quite apart that is from being *modelled* by a program, would be something else.

### *Conscience*

In Chapter 8, we looked at human conscience. We summed it up as a set of self imposed rules that guide our personal behaviour. Conscience is a part of the "*unshakeable*" data within all of us that we described in Chapter 1. It can be a moral guide for living. We may be born with it and we may develop it further from experience. Once again, it is *information*. It is information that may

come from reasoning, a belief in a Supreme Being or God, a love of people and all living creatures, a wish to do well for others, a desire for fair play, or an innate sense of right and wrong. It may also come about from lessons that we have learned painfully, as well as from a fear of the *Unknown*; and a hope of avoiding its wrath. Whatever the origin of conscience, it is an important part of the human condition. If our conscience is satisfied, we are usually happy and reasonably content. If our conscience is not satisfied we may feel guilty, edgy, and moody. We have a feeling that we are not doing what is expected of us. We should be doing something about it. We may be unable to concentrate and focus on normal living. Tests on our conscience come in many guises but often they come by chance. We do not seek them. They come on us unawares. Not quite conscience, but in many ways similar, we think of the wonderful self sacrifices that people are known to have made for others in concentration camps and captivity to which we referred in the last chapter.

### ***What are we?***

Having looked at body, mind, consciousness, and conscience, we may well ask;—what precisely are *we*? We understand from studies of our DNA and our genetic make up that our bodies are unique. There is, it is true (according to Professor Bryan Sykes of Oxford University<sup>76</sup>), one piece of information (our so-called mitochondrial DNA) that is not unique. This is passed on to us by our mothers virtually unaltered from generation to generation, stretching back to the beginning of history. Travelling back 50,000 years in time, Bryan Sykes has ingeniously identified all of us as belonging to one of seven maternal ancestors. There is no doubt that many more amazing revelations will follow. As we mooted in Chapters 8 and 12, our DNA might even be found one day to contain memory once held in the minds of our ancestors. Except then for mitochondrial DNA, we accept that most people's DNA (and certainly everybody's memory) is very different from everybody else's. Some DNA can be changed physically. Certain genetic disorders may be curable. Corrective Stem cells may be used to correct our damaged parts; and we can be cloned. Quite apart from DNA, our body parts can also be replaced by parts taken from other people. Body parts may be exchanged like parts of a car and, like a car; there is a time limit on how long our body can be used. Our bodies become increasingly "*manufactured*" and used as if they are independent of "*us*"? Surely, it is not unreasonable to ask "*What exactly are we?*"

### ***Who are we***

Going further, and possibly more importantly, we may also well ask, *who are we*? We all have mind, memory, consciousness, self consciousness, and a conscience, as we have seen. These attributes keep us informed. They keep us on the right track. They do many excellent things for "*us*." In addition, we use our *subconscious*, an amazing state of mind within all of us to which we will return to in a moment. But, "*who*" is it who has all these wonderful things and uses them? Who is the "*I*" that talks to "*us*" when we reason? *What* is the "*entity*" that reasons with us and helps us to make up the mind? Who is the "*I*" that identifies "*us*"? Are "*we*" and our other "*entity*" just pieces of "*intelligence*" that live in our body? Do "*we*" use our body as we ride a horse, tame it, and make the most of it? We must say judging from many our involuntary actions (like breathing, growing up, getting colds, and getting better again, and so on) that our body often seems to do pretty well without us. If our body is so easily modifiable

76 Bryan Sykes. *The Seven Daughters of Eve*.

with different DNA and different body parts, as we discussed in the last paragraph, does our changed body retain its old mind and intelligence? Are we still exactly the same “*we*” that we have always been, or do we become someone else? Is the new “*we*” responsible for what “*we*” did before we were modified? We seem sometimes to be just puppets dancing up and down on “*strings*” of probability and chance. The questions are all part of life’s great puzzle,—the true answers to which we may never know.

### **Power of emotion**

#### ***Product of the Mind***

In Chapter 4, we said that we often use the words *brain* and *mind* interchangeably. To computer people, at least, the two words suggest thoughts of hardware and software. As hardware, the brain seems to be connected with hard reasoning; while, as software, the mind connects with our emotions. Like the mind, our emotions are nearer to our soul, the ethereal part of us, our consciousness, and as near as anything can be to our true *being*. That is why we have spoken about emotion in almost every chapter. Emotion pervades all we do and say. It is a concomitant of living. It could be argued that without emotion life would have no meaning. It would not be worth living. *Cogito Ergo Sum* of Chapter 1 might *prove* we are alive, but what really *tells* us we are alive is *emotion*. Where there is no emotion, there is no life. Where there is no life, there is no emotion. All *information*, every state in human living, has “emotion.” Even absolute serenity and peace cannot be without it. Once upon a time, our desire to find food and avoid enemies helped us to develop intelligence. Likewise, our *likes* and *dislikes* now develop our emotions. Emotion expresses what we like and what we dislike. If we *like* something, we have happy emotions. Provided that our feelings are not *too* happy and overly elated, we usually remain in a stable and peaceful frame of mind. If we *dislike* something, especially if our dislike is intense, our feelings may run wild. We show anger and rage. We may act out of character. The intriguing 50:50 factor (of Chapters 2 and 14) which, when applied to our likes and dislikes divides people into opposite camps, helps us to generate these emotions. Like the positive and negative poles of electricity, our emotions create *potential energy* that keeps us *alive*. It is a driving energy behind all that we do. Without emotion, vast new areas of knowledge (and even super intelligence), would be humdrum. It may be said that emotion is a reason for living. It may be the one reason that we are here at all. Without it, and its related *information*, we would not exist.

#### ***No limit to its scope***

No matter how intelligence and emotion begin, they are always preceded by information. This is true whether they have evolved out of inorganic matter, whether they have come to us by an act of the Divine, or in any other way. Information comes first; intelligence and emotion follow. Emotion is a part of information and both follow the same laws. Sometimes, information may be just as momentous and emotive for a person as, say, DNA or nuclear physics is for the world at large. Emotion affects our reasoning and our understanding. Too much emotion causes mental blockages and may destroy a person’s capacity to think. It can enrage and infuriate. In the ultimate, it can destroy mind *and* body. In a wider field, it can destroy nations. It may have consequences far beyond its immediate impact. Control over our emotions is incumbent on all of us if the human condition is to improve. In Chapter 3

we drew attention to *Daniel Goleman's* excellent book, *Emotional Intelligence*. As its name implies, the book brings intelligence and emotion together. The book describes ways of controlling our emotions. It emphasises the need to start teaching emotional control at an early age. The advice of counting from 1 to 10 before taking action is not to be laughed at. From the very moment information passes into a human mind, emotion is attached. It cannot be separated. It is as if, somewhere within every "memory particle," there is an innate emotive component. Perhaps we could call them *emoticons* (the emotional molecules of Candace Pert's book we have referred to). We mooted something like this in Chapter 6 when we talked about the mind's use of labels; and also in Chapter 12 when we suggested *osmodots* as a name for information that is passed almost by osmosis at a Spiritualist séance. Emotional particles are carried perhaps in the blood stream or in the body's limbic system, and seem to be *shared* by mind and body as we have suggested. They are able apparently to *by-pass* normal checks and balances and directly influence us in what we do. Before the particles reach the brain, they appear to whirl around in the *pit of our stomach*. They may inflame our passions and incite us to do irrational things which in our saner moments we would not dare to do. Whether emotion is related to anger or to joy, it certainly colours our information. It gives all information an important and deeper meaning. It is not necessarily negative. It may be a power for good,—but its extremes still need to be tempered.

### *The better side*

The more self disciplined we are, the better we are at controlling our emotions. It is a state we enjoy when we love rather than hate. Our emotions are by no means always adverse. Excessive joy at the outcome of a sporting event, the appearance of a pop star, or the marriage of two celebrities, may sometimes be overdone but generally the emotion is not harmful. Our subsequent actions might include huge acts of generosity, helping others without regard for oneself, donating to charities, taking issue with authority on say environmental issues, and fighting for moral causes. The willing attendant in all cases is information. Emotion in times of grief; particularly at times of death or serious injury to relatives, friends, and even to public figures, may be a great source of comfort for those most concerned. Emotions in times of national need may be invaluable. We noted in Chapter 13 Sir Winston Churchill's brilliantly emotional speeches in the Second World War. These sustained the nation through arduous times and led to ultimate victory. Showing emotion then can be a powerful way of appealing to other people's instincts. Strong emotions are also raised by tales of, misfortune, natural disasters, suffering, human endurance, the abuse of power, irresponsible actions, and the neglect of duty, as well as by feelings of injustice and appeals for fair play. Together with the appropriate words, emotion can be a powerful force for good and, like a picture; it has greater influence on us than words alone. It can lift us up from inaction and spur us on to great achievement. But, whether of joy or grief, *displaying* emotion is a useful way of releasing tension and "letting off steam."

### *The bad side*

Emotion has a darker side. In all walks of life, unfortunately, there are people who are capable of being consumed by hate. Not only by hate, but bias, prejudice, racism, pride, self adulation, ambition, greed, revenge, and indeed anything that seeks advantage over others. Potential emotion of this kind is within all of us. Emotions may arise out of past events, a sense of injustice, future hopes, illusions,

imaginings, desires, and aspirations, as well as out of the language that expresses them. They may be aroused as much by chance as by provocation. We noted in Chapter 10 from *Jay Ingram's* book, the Burning House, how emotions can disturb the body's well being. In extreme cases, we may suffer brain damage and become seriously ill. We are unable to do our normal work. Emotion overrides reason. By itself, emotion is a poor *reason* for doing anything; but it is often more powerful than reason. It is a testing time for reason. In *microdot* terminology, it could be that the microdots of our memory are disturbed and we are unable to focus our minds. Emotional microdots (*emoticons*) may influence us long before reason has a chance to intervene. Mentally and physically, we may dash off in unusual directions without thinking of the consequences. We can become incapable of behaving rationally. We see things that are not there, or we do not see things that are. We do foolish things. The information that reaches our brains is faulty. We are at its mercy. We may have an unremitting obsession. Reason may not be completely abandoned but, even if it isn't, it is geared only to one specific aim. Nothing but a single objective matters. When emotions are out of control like this they are dangerous. They can induce large masses of people to commit terrible and senseless crimes, as we noted in Chapter 11. Literally, it is like taking the lid off a kettle of boiling water. We cannot resist the pressure.

### ***Emotion in computers***

In Chapter 5, we said that we could not imagine computers enjoying or suffering the remarkable range of feeling that human beings experience. Computers may deduce the nature of human characteristics, people's laughs and smiles, their grins and grimaces, their cries and tears, their highs and lows, and their ups and downs; and they can display these emotions in dynamic ways. But, vivid portrayals do not mean that computers *experience* these feelings in the same way that human beings do, or that they "*really understand*" what these feelings mean to people. While computers exhibit something that comes near to what we call human intelligence, experiencing *emotion* is much more than this. Emotion is for living things. Emotion is biological. It is a physical manifestation of concerns in a *living* being. It is not possible for a computer to "*feel*" as people who are living "*feel*." *Stewart and Cohen* in their illuminating book (to which we referred earlier) have suggested that intelligence and feeling can emerge slowly and inexorably out of inorganic matter. This is however an entirely different concept. From the debate on this, as we said at the beginning of the chapter we stand aside. It is not part of our remit to cover. Computers can of course generate emotion in people.

### **Dreams and the subconscious**

#### ***Much to discover***

Dreams and our subconscious are great mysteries of our being. Both, at times, seem to have access to another dimension. Some dreaming is based on clever ideas. It can be so ingenious that we marvel at its inventiveness. Some dreams seem to be little more than residue, shreds, and leftovers from daytime thoughts. They could be mixed up information that the mind turns over aimlessly when we sleep. Hence they could be just rubbish; although, as we will see when we discuss the fourth dimension

below, that could be another reason why dreams appear to us in the way they do. Some dreams might have their origin in trapped and fragmented particles (microdots) which we discussed in Chapters 6, 9, and 10. Dreams are also affected by drugs, the food we eat, and the drinks we drink. In other cases, dreams could be the results of a tired old mind moving, sometimes sleepily, sometimes energetically, through old memory. Essentially, they could be worthless. But, even if that is all they are, it is still important we should study them. What we learn from the study could reveal the mind's way of working. It could show how our subconscious helps us to learn, solve problems, and work out our daily routine. It may be that, normally, it is our subconscious that gets tired and persuades us to sleep and dream. Paradoxically however, when there is a lot going on in our mind, it seems it is our subconscious that *doesn't let us sleep*. A study of the subconscious could give us clues to how our mind receives, stores, and processes information. Certainly, dreams (and our subconscious) seem to have access to anything we have ever mentally noted, be it in our babyhood or at any time since. Dreams talk to us, but in strange ways. To know how dreams do this would be a prize worth having. But even beyond this, dreaming and our subconscious may have more influence over us than we realise. In strange ways, dreams could be saying things that our minds and bodies need to know. Our health might benefit from knowing. We are reminded of the strong link between dreams and mental illness to which we drew attention in Chapter 10. We suggested there that dreaming could be our most natural mental state, to which we return when we have nothing else to do. It could be that it is consciousness that interrupts our dreams, and not vice versa. There are people, as we have noted previously, who believe that our subconscious can even receive "*messages*" telepathically. It is pointed out that "*telepathic messages*" are likely to be recognised only when we are asleep, and separated from the day's distractions. When we are awake, it is said, we are less likely to distinguish "*telepathic messages*" from normal thinking. We wouldn't be aware of the difference. It is a plausible argument. We have no evidence to support these beliefs but they show the extent to which people are prepared to go to find answers to unexplained phenomena. There is yet much to discover.

### ***Imagination at work***

Dreaming was the subject of Chapter 9. We accepted that dreaming is a normal activity, although we know there are many people who say they never dream. It is possible that other creatures also dream but we do not know this for certain. In most cases, if we try, we can trace the subject of our dreams back to a previous event in our lives. The depth of information to which our dreams have access and the extraordinary, not to say acrobatic, manipulations they perform with it are amazing. The dream is an inexplicable phenomenon in the human condition and much of it seems to depend on chance. We look in vain for an explanation of our dreams. People have put forward theories that are as amazing as the dreams themselves. When we suggest that our dreams are made up of *microdots*, we too are perhaps indulging in extravagant thoughts. As particles of matter, dreams would certainly have an appearance of happening by chance. Particles would be an ideal means by which to *see* our dreams. In addition, the subconscious that we will look at again in a moment is very close to our dreams. What is so bewildering about dreams, and the subconscious, is our ignorance about them and why we have them at all. It could be that this is where religion and faith step in. We have a feeling that there is something "*out there*" much bigger and more powerful than ourselves, but which nevertheless is very intimately concerned

about us. But even leaving aside this aspect, as well as our speculations on *microdots*, there is still much we could learn from studying our dreams. Just to know *how* fragments of memory can produce such amazing and sometimes plausible stories as they do would be very enlightening. It could give us clues to the nature of our whole thinking process. To know *how* we are able in our dreams to *see* vivid pictures and to know how we remember them as dreams rather than true life, could tell us a lot about how the mind works. There is little doubt that an active imagination has much to do with the answer.

### ***Language of inference***

In Chapter 9, we talked about the language of dreams. By language in this case we were talking about the means by which we attempt to find meaning in our dreams. Essentially, any meaning (if there is any *meaning* at all in dreams) is conveyed by *inference*. There may be no *intended* meaning whatsoever. We may just be *seeing* parts of past activities and from these merely *inferring* meaning and jumping to conclusions. Dreaming could be a continuation of the mind's normal picture forming and *analogical* functions to which we have often referred (see for example, *Analogies are a language* in Chapter 7). However, not all the mind's capabilities are operating when we dream. Otherwise, we would not find the logical errors and non sequiturs in them that we do. If there are *messages* in our dreams, they seem to be either inadvertent or hidden. Of course, if something is playing on *our mind*, and is worrying us; then, a dream could well have a "message." Whether it is helpful or not depends on chance. The *messages* are not literal, so they are difficult to understand. Post dream analysis that we referred to in Chapter 9 may suggest connections with the real topics concerned. If we can think back from our immediate post dream thoughts to an actual dream we can often *infer* an analogical or metaphorical connection. The connection is not likely to be a reliable deduction; it is usually just an inference. Nevertheless, whether the inference is true or not, and no matter how dreaming may one day be explained; dreams are still *information*. They are a fascinating example of how information (whether under control or out of control) can be disarranged, distorted, and turned up side down, and still be tolerably meaningful. They may still have an unpredictable effect on our lives.

### ***Effect on our well being***

In Chapter 10 and above, we have suggested that dreaming may be our natural state. Whether we are awake or asleep, we may still dream. It is however only when we sleep, i.e. when some parts of the mind are inactive, that our dreams emerge and we are aware of them. Once again we are encouraged to ask, who are *we*? So many unexpected and unsolicited things happen to us in life that we may be forgiven for the feeling that our body is an independent *vehicle* on which *we* just happen to be travelling. Possibly the body, like a *vehicle*, is leased or rented out to us. It is a vehicle that sometimes seems to react to events with a *mind of its own*. We have little say in the matter. If this is so, as with any property we depend on, we ought to pay it much more attention to it than we do. We should at least try to keep the vehicle in reasonable condition. We do not know whether neglect of our mind and body affects our dreams; but certainly, from the other way round, we know that unpleasant dreams can affect us. Sometimes distressing dreams leave us moody and depressed. They cling to us and, try as we may, we

cannot shake them off. We may say to ourselves, it was only a dream, and try to forget it; but forgetting is not always easy. If it is possible for us to become so distressed when we remember our dreams, it seems highly possible that we may also be affected by them even when we don't remember them. Dreams we have had, but are in the background of our mind, could account for much more human petulance, ill temper, and depression, than we care to admit. What takes place in our dreams could well determine our daytime moods and well being. Subconsciously, we could feel restrained from doing what is good for us, or from what we would like to do. Instead of being decisive, we may have doubts. The way ahead is obscured. It is a good example of chance again playing its part in the human condition, causes of which we may not recognise. It is the kind of chance that, unknowingly to us, influences the life we lead.

### **In defence of the subconscious**

#### ***Not at all unconscious***

Dreaming gives us a glimpse of our subconscious at work, although so far it has not helped us very much to know just *how* it works. In many circles, there is a tendency to avoid using the word subconscious. A subconscious state is mistakenly equated with being unconscious; or at least being *vaguely* unconscious. This definition does the subconscious a great disservice. It makes it harder to investigate what the subconscious does for us. When "*we*" are *unconscious*, our mind and body are disconnected. At such a time (unlike when we sleep) we have no active link with our memory at all. Our mind and body are distinctly uncoupled. If any damage we have suffered is very serious, all information flow from the mind may be utterly severed. We are "*dead*" to the world. Our memory is as good as erased. When "*we*" are *subconscious*, however, our mind and body are performing normally. There is a strong link to our intelligence, emotions, and memory. There is nothing wrong. There has been no sudden lapse or break in the continuity of our living. We have simply drifted willingly from one state into another in full knowledge that we are in safe hands. Usually, we are still able to re-act to changes in the environment and to return to full consciousness with little effort whenever we wish. All the information that defines *us* (and indeed is *us*) is available and accessible to us. Such a state of awareness bears no comparison whatsoever to being unconscious. We can use the computer as a model to illustrate the stark difference between being conscious and being unconscious. If it was ever possible for a computer to be conscious (which clearly we do *not* think it can be); then, when it is switched on, it would be conscious. When it is switched off, it would be unconscious.

#### ***Vital support for all we do***

We have referred to our subconscious state at many points in our story, and particularly in Chapters 4, 5, and 7. In these three chapters we thought that subconscious activity had vague similarities with *idling* time in a computer. In computing this is a time when, although a user is not using the computer, it is still switched on. Work is still going on to keep records up to date, to keep the system tidy, and to ensure that stored information is readily available for future work. Computer systems may

also be ‘programmed’ in *idle* time to take stock of things and, to alert us of changes that may have taken place since we last used the system. This is not unlike what the subconscious seems to do for us when we break off our active thinking and move on to do something else, or merely go to sleep at the end of the day. But our subconscious does much more than a computer in idle time. Our subconscious, both when we are awake and asleep, has access, if not to our entire memory, then at least to large parts of it which it can use without reference to the conscious mind. We think particularly of the human Macro and Micro operations that we discussed earlier. Macros are invoked from both our conscious and subconscious mind, but the detailed micro instructions for what has to be done are carried out subconsciously. For this, the subconscious has direct access to all our well learned and well rehearsed memories; like, for example, the multiplication tables and other data we learned at school. This information is ready at hand whenever we want it. For us to be conscious of and consciously to follow all these complex operations in all their fine grained detail would drive us insane. It would be, as *Stewart* and *Cohen* to whom we referred earlier asserted, “A reductionist nightmare.” Hence, these detailed and minute operations are carried out by our subconscious and beyond our ken. In this respect, the subconscious is like a computer’s memory *cache*. It holds information in the same way that the “*cells*” in a computer spreadsheet hold hidden formulae for working out answers. It is the same hidden support we get when driving a car along a well known route. Subconsciously, our brain switches over to “*auto pilot*.” We are hardly aware of what we are doing. We drive safely from A to B across the countryside, thinking of something completely different and yet still paying attention to the rules of the road. If there is an emergency, we soon return to real “*reality*.” It is the same support and know how that comes from continuous use and practice; such as when we learn to swim, or ride a bicycle. We are using our so called *procedural* memories. Once a skill is learned and tucked away in the subconscious we have (the memory of it) it for ever. The subconscious, without our asking, obtains the information enabling mind and body to do the work. It will prompt and warn us when things are not going as they should. It is a valuable ally. We are very far from being unconscious when we use our subconscious.

### *Enjoy the wonder*

We have then a good idea of the many things that the subconscious does for us. For the most part we take them for granted but, if we think about them seriously, we are also very grateful for them. We may be amazed at what the subconscious does do for us. We are amazed at its information handling. We are amazed at what it seems to know about us. But mostly, we are ignorant of *how* it does things and we are intrigued. Possibly we attribute more power and influence to it than it has. Not least, we would like to know more about the language of the subconscious; how it communicates with the conscious mind; and, whether we can ever hope to talk to it directly. So far as we can tell, it talks to us in allegories. It uses a language of analogy and metaphor that we have discussed in other contexts. *At one extreme*, what happens in the subconscious may be incidental; the simple recording of events, or fragments of events, from which, when we *see* them, we draw conclusions. It may be a mix up of parts of one situation with parts of another and the mixing of unrelated events such as occurs in our dreams. *At the other extreme*, the subconscious may be much more than this. It may be able to sort and process information intelligently. It may be showing us how our own mind works. It could be a power that, if we could harness it, could do great things for us; although we would need to do this with great care,

and not depend on it entirely, if our mind and body are to be protected. We should not discount our silly dreams too readily. In Chapter 7, at one point, we even linked the subconscious with our *soul* and our very being. It could be that the subconscious is the elusive “*we*” or “*us*,” with whom we carry out so many intimate conversations. With so many wonders in life, there is no limit to the marvels we can imagine. Information in our mind, true or false, has no bounds. However, rather than fear the wonder, we should perhaps just enjoy it.

### **Coping with uncertainty**

#### ***Memory is far from infallible***

Beginning with Chapter 9 on dreams, we began to think about the uncertain, unreliable, and sometimes shadowy aspects of information. We saw that, as a record of the past, human memory is far from infallible. In Chapter 10, we could see that our memory sometimes goes astray and causes mental illness. Dreaming and unstable mental states almost certainly have a close connection. In Chapter 11, we looked at the deliberate misuse of information—from, deception, deceit, and fraud, to the occult, esoteric, witchcraft, and use of drugs. Information misuse adds much to the world’s distress and uncertainty. In Chapter 12, we looked at information on the paranormal. We looked at information on Spiritualism, Ghosts, Poltergeists, Apparitions, near death experiences, UFO’s, aliens from Outer space, and so on. Many of us are willing to dismiss most of the stories as phantasms of the mind. And yet, because some of the tales we hear are so sincerely believed by some people, we are not always so certain. In Chapter 13, we looked at illusion which is probably the greatest uncertainty of all. In a world that cannot know *reality*, it is possible to believe anything. For all we know, everything could be illusion. Even we could be an illusion. Up to 90% of the things we “perceive” (including all our illusions and delusions) are, we are told, already in our minds before we see or hear them. We cannot “*really*” be sure of anything. In Chapter 14, we noted how Society is being transformed by new Information Technology. This could even lead to a change in the human species. We could become like colonies of ants. In the midst of such uncertainty, we have no alternative but to live with doubts. We have to do it by mobilising the millions and millions of separate, individual, and independent, minds in society, and by melding them into a coherent and stable force for good. We have to agree the premise and rules by which to live and work. Then, at least, we can *act* as if *something* is *real*.

#### ***DNA’s great test***

Adding to uncertainty in modern life are the awesome advances being made in bio-engineering. DNA is information. It is the basic blueprint of life. Because we can alter this information, and manipulate it, we can change life in many ways, but we are yet by no means certain of the consequences. The way to handle DNA is the greatest test yet facing us in the handling of information. All that we have ever learned, and are learning, about other subjects could pale into insignificance compared with that which stems from bio-engineering. Gene manipulation will be the means to do wondrous things, to trace our ancestry, to identify us uniquely, to cure illness, to prolong people’s life span, to alter people’s

features and body characteristics, to clone people for posterity, to produce life in the laboratory, and to manipulate, improve, and refine it. It may perhaps one day even enable us to *read* our ancestors' memories. It seems nothing less than a fanciful dream. But, all these *advances* have unpredictable possibilities. Many things could go wrong, some of which we have referred to in our text. What could follow, either by accident or design, could be the worst of nightmares. DNA is *information* in its starkest and most fearsome form yet.

### ***Experience less than real***

Very much a part of new Information Technology is the ability to produce artificial environments with all the *appearance of reality*. This is the "Virtual Reality" or VR that we first referred to in Chapter 2. The experience is certainly something less than we mean by *real*, although sometimes it is difficult to distinguish one from the other. Those who use VR usually feel at least part of the time that it is "*real*." It is used in training, testing, solving problems, education, and amusements, as we described. Soon it may be used for making purchases, even letting us "*try on*" clothes and "*feel*" material at a distance. However, VR may also be used in more devious ways. It may be used to search people's minds, to trap them, find out their inclinations, and incriminate them in much the same way that attempts are made to use hypnosis. More hazardous still, people may use VR to escape from daily life and live in a world of fantasy. People may leave reality behind and live for long periods in a state of VR. Just as drugs may harm us physically, so long periods of virtual reality could harm us mentally. Not only this, but through Virtual Reality, people may have experiences they would normally never encounter. For a price, all kinds of experience are becoming available from all too willing purveyors. Way out practices, outlandish adventures, physical ordeals, sexual exploits, other transgressions, and dabbling in the occult, to name but a few, are products that are becoming possible to buy. The possible damage to people's minds is incalculable. For the human condition, some aspects of VR are seeds of self destruction.

### ***Other life forms***

For a long period of time, and particularly with the exploration of Space, there has been speculation about life in distant parts of the Universe. People are inclined to believe that somewhere in the Universe there must be other "*life and intelligence*." However, if there is, it is most unlikely that other "*life*" forms would be exactly like our own. On earth, all living creatures from the smallest insect to the largest whale, and from the least intelligent of creatures to us, have similarities in their features. It is as if, initially, life on Earth was drawn from one common mould that has developed and changed its shape and capabilities over billions of years. This initial mould however could be unique. The search for other life similar to our own could be in vain. Other life forms could be far from human like. They could be mere strings of intelligence, forces that live and survive in ways totally different from ours. They could interact and co-operate with each other in ways that to us are totally incomprehensible. Hopefully and mercifully, unlike ourselves, they may not kill and eat their fellow species in order to survive. They could be forces that live purely on information, knowledge, wisdom, and (hopefully) truth. They could be forces that do not breed and reproduce as we do, but live on into eternity. Ideas of pleasure could be very different from ours. It could be that one day, when we are sufficiently advanced, valuable contacts

between such forces and ourselves could occur. Some may argue that there is evidence of this already, in the human spirit, in the way our minds and bodies are developing, in our dreams, and in our subconscious. In the meantime, Science Fiction writers and people with outstanding imaginations will continue to dream up scenarios and keep us entertained with their writings. Remarkable discoveries and events on Earth will continue to occur. Stories of the paranormal, inexplicable miracles, voyages into the depths of Space, battles between kingdoms of good and evil, and fascinating tales of other civilisations and other worlds, will amuse us all for a long time to come. Writers legitimately play with information. At times they may be nearer the truth than they imagine.

### ***Materialised Intelligence***

The possibility that there are other life forms in the universe that are different from those on Earth is Science Fiction, although possibly it follows from what many scientists tell us. We may start with the obvious fact that creatures on Earth are made of some material substance. Most certainly too, in the human mind there is something we call *intelligence*. During long years of evolution we have been developing this intelligence, and we are continuously acquiring more. We could take another line of thought. It could be that we *started as* intelligence, and this has since materialised into living beings. We could be *materialised intelligence*. We may imagine that *Out there*, in the great wide Universe, there is some grand *supernatural* intelligence that is experimenting with us here on Earth, and possibly on other planets too. Earth and other planets could have been invested or injected with different amounts of intelligence to see how they would evolve. If various species of life were already here before the intelligence arrived, it could be that humans received a different intelligence from that of other species. Having different intelligences could be part of the experiment. It could be that some *supernatural* entity is now studying what happens when information and intelligence are left to roam freely over a pristine planet. With all the problems, contradictions, and feelings of joy, sadness, frustration, anger, relief, love, hate, sympathy, enthusiasm, depression, excitement, boredom, and so on that we experience, there is no doubt that our observers would learn a good deal from what is happening. They could at least be compiling a very interesting dictionary of our behaviour and emotions. What we envisage here is not very good Science Fiction. Other writers would make a much better job of it. It cannot be denied however that, *information*, memory, emotion, thought, consciousness, and intelligence (materialised or not) are very powerful ingredients in our lives. We may never understand the reasons for them.

### **Mathematics, Science, and Philosophy**

#### ***What, How, and Why***

Philosophy is the political wing of Science and Mathematics. All these three fields produce, and depend on, vast volumes of *Information*. All three fields examine the *what's, how's, and why's* of existence. With these three interrogatives, learned scholars try to discover the *physical* and *metaphysical* nature of all things including ourselves. They wish to know *how* everything fits in with everything else. Mathematicians and Scientists are concerned with, beginnings and ends, properties, structures,

and the limits of things. They investigate *what* the Universe consists of, from the mightiest mass to the finest fragment; and, with these findings, they add infinitely to our growing store of knowledge. We become ever more knowledgeable, capable, and efficient. We are able to do ever more varied things, and do them in less and less time. Mathematics and the Sciences explain *what* things are, *how* things happen, *how* we develop, and how we can improve on them. Philosophy takes a longer view. It may follow in the wake of Mathematics and Science, but it is by no means unknown for philosophy to be ahead in its thinking. Philosophy adds moral, ethical, and new dimensions, to what mathematicians and scientists are doing. Philosophers will analyse and ruminate on our existence, in the light of the knowledge that mathematics and science reveals. Philosophers have fewer inhibitions about discussing ethereal and non material matters. Plato in the “*Republic*” argued that Philosophers should be the Rulers and Heads of nations. In the innocent words of someone less famous, we may add that as a philosopher “*he* would say that, wouldn’t he?” Philosophy, however, does help us to understand how we should behave in the light of information. It also addresses the even more important problem of *Why* should all this be? To this, no answer has yet been found; and, alas, may never be. Over the centuries, philosophy has successfully tackled many “*lesser*” *why’s* in life (*why* some things happen, *why* we do some things, and *why* we think as we do), but it has not yet found the answer to the greatest *Why*, the *Why* with a Capital “*W*,”—Why are we here at all?

### ***Zero and Infinity***

In Chapter 2, we noted that many mathematical symbols; like “*i*” for the square root of Minus 1( $\sqrt{-1}$ ); “ $\wedge$ ” for raising the power of a number; “ $\emptyset$ ” for Zero; and “ $\infty$ ” for Infinity are extremely valuable *information* for solving problems. They and symbols like them have led to some of the world’s greatest inventions and discoveries, and yet it is not always absolutely clear what the symbols mean. If we repeatedly multiply a number by 2, the result approaches infinity. If we repeatedly divide it by 2, it approaches but never quite reaches Zero. It is intriguing to think that somewhere in the Universe all mathematical symbols have a counterpart in Nature. If this is so, it could mean alas (with shades again of Bertrand Russell) that life is nothing but a game of numbers; and all life is one grand illusion. With Zero and Infinity, we are reminded of Martin Creed’s exhibit of Switching lights, and our interpretation of it in Chapter 13 as “Nothing and its Opposite.” We take up the subject because the concepts of Zero and Infinity in mathematics seem to us to be closely related to the question we keep asking, “*Why* are we here?” **Zero** is the number of indisputable answers we get whenever we ask the one fundamental question of life, “*Why* are we here? The answer is a blank. It is nothingness, a void, an absolute nothing. We have no answer. **Infinity**, on the other hand, defines well the number of answers we get to all the other *how’s*, *what’s*, and *lesser why’s* in life. There is no limit to the questions we can ask about *how and why* things happen; and even how we have got to where we are. They are as many answers as there are ways of moving in a 3-dimensional space. We cannot imagine the number. It is *Infinite*, the ultimate opposite of *Zero*. Two remarkable, if not revolutionary, books on the nature of the universe which may one day help us to understand these two most elusive values have recently been published. The first is a book by *Brian Greene*<sup>77</sup> called “The Elegant Universe” (with exciting theories on Superstrings and Hidden

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77 Brian Greene. The Elegant Universe

Dimensions). The second book, by *Lynne McTaggart*<sup>78</sup> is called “The Field” (with incredibly intriguing theories on a *Zero Point Field*). Both books deal with the astronomical distances of Einstein’s theories of Relativity and with the minute distances of Quantum mechanics. Again we note, throughout all the theories advanced, the need for an *observer*. This requirement has a strange resonance with our earlier assertion that “nothing is really known to exist until information about it has passed through a human mind.”

### ***A fourth dimension***

From Chapter 2 onwards, we have several times referred to *Edwin Abbott’s Flatland* and his *Romance of many Dimensions*. We can see immediately how restricted two dimensions are compared to three. We can see how a world of just length and breadth would be completely transformed by the addition of height. Going high enough, it would be possible to see the whole of Flatland below; and, in a flash, solve many of their intransigent problems. Intricate puzzles would suddenly have easy solutions. The addition of a third dimension would add a new unbelievably large space in which to move. In our world too, the addition of a new dimension would give us a vast new space in which think and operate. In Chapter 2, we suggested that an ideal logical place for a fourth dimension (for us on Earth) would be within the *inside* of matter. We know for instance that it is impossible for objects literally to touch each other and that between all atoms there is space. Could it not be that within this space lies our fourth dimension? It is well known that X-rays, radio waves, and other waves, move through objects. Presumably they do this in the space between atoms. At first the space seems ridiculously small, but it is not really so very small. It is at least equal to the volume of all the mass in the universe. We remember that, in Flatland, their next dimension was height but it was so *small* that people were unaware of it. All height was uniform. So too for us, could it not be that our next dimension (of which we are also mostly unaware) is uniform? The space between atoms could be our fourth dimension. It is already the space that allows us to have speed of light communication; which, in turn, makes possible, Radio, TV, the Internet, and the Mobile Telephone. If Flatland had used radio and mobile telephone communication, it would be interesting to know where *Edwin Abbott* might have placed it. He might have thought of it as travelling in his new dimension of height or, possibly like us, he may have placed it in the space between the atoms.

### ***Effects of an extra dimension***

If all the increasing communication, in which our world is now so busily engaged, takes place between atoms of matter, it is interesting to wonder if this form of communication is generating heat in much the same way as the flow of electricity in copper wires also produces heat. If it is, it could well be a contributing cause of global warming; a warning that (one fears) alas is very unlikely to be heeded. However, leaving aside this unwelcome possibility, it could be that the space between atoms is a home for our now well postulated *microdots*. We have always assumed that microdots would be smaller than

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78 Lynne McTaggart. The Field

anything we can imagine. Like the height in Flatland, they would be invisible. If our mind is able sometimes to move into this dimension, it could help to explain many of the remarkable capabilities, beliefs, and experiences we have come across in our study. Many wonderful human capabilities; from our subconscious, to insight, understanding, thinking, remembering, intuition, learning, imagination, inspiration, and even genius seem sometimes to be the result of seeing things in another dimension. In Chapter 9, we were intrigued by the sometimes impossible nonsense in our dreams. It could be perhaps that, while we sleep, our mind (using our memory particles) sometimes sees our dreams in four dimensions while another part of *us* tries hard to make sense of them in three? In Chapter 10, it could be that madness and hallucinations that the mentally ill sometimes sadly experience may be explained by their minds seeing things in four dimensions. The pots, pans, and produce in a neat and tidy kitchen, tucked away in their neat and tiny cupboards, would like quite ghastly if they could be seen from all their insides. The human body would have a very different kind of beauty if we were looking out from its innermost parts. In Chapter 11, it could be that the Occult, Minds possessed, and the use of drugs, and so forth, all have connections with a fourth dimension. Even more amazingly, looking back at Chapter 12, the possibility of a fourth dimension could support our speculations on ghosts, near death experiences, and even, UFOs. Memory particles lying in the space between atoms could explain why ghosts move so easily through walls and buildings. It could explain why some particles are retained in old buildings and perhaps why some people have had visions of Roman legionnaires; vivid scenes of the French Revolution; and so on. In Chapter 13 we looked at illusions which, by seeing something that isn't there, are almost by definition like looking into an extra dimension. But whatever new discoveries are yet to be made; whatever new explanations are yet to be found; whatever the possibility or impossibility of this or that; or of anything we have speculated on in our study; the very fact, that we are able to imagine it, makes it all a valid part of the *Information* story.

### **Absence of proof**

#### ***Looking for answers***

Since we have no convincing proof of why we are here, we “*make do*” without it. A “*Make do*” philosophy has supported people through the ages. It helps us to make sense of life. As we commented at the beginning of Chapter 13, most people usually follow mathematicians and *assume* a premise. Consciously or otherwise, most people have a philosophy that guides them. Many find answers in religion. With some notable exceptions, when clearly things have gone wrong, religion based on the teachings of venerable prophets has withstood the test of time. For many people, Faith is a pillar of strength. They are fortunate. They have no difficulty in finding their answer to *why*. It serves them well. It would be dangerous folly to try to dissuade them otherwise. Nevertheless, because of the fabulous advances in science and technology, we find that religious faiths (and indeed all beliefs) are now continuously under challenge. Evolutionists assert that everything began accidentally, that it all started from nothing, and will end in nothing. A useless journey if ever there was one. People with faith dismiss such claims as narrow, arrogant, and an affront to the human spirit. Thus, devout believers and evolutionists have opposing views; although each does sometimes make concessions to the other. During the short spell

of life we are granted, the obvious solution is surely for everyone to agree on the purpose and manner of living. Adopting a purpose to life is a topic we will return to in a moment.

### *Assuming free will*

Philosophers and others have debated for centuries whether or not we have free will. Some people believe that all life is pre-determined. The debates are clever, and have widened our horizons, but in the end they are futile. The answer, like many others, depends on why we are here. If we knew that, it and most other answers would fall into place. There are of course many constraints on our individual actions. Certain things will happen whatever we do. We are constrained by the environment, our capabilities, other people's will, the money we have, and many factors beyond our control. On the other hand, without some free will, we would be mere puppets on a *string*; following pre-determined laws, with no power of decision or responsibility, and never any sense of achievement. Life would be pointless. To believe that our most trivial actions are ordained, as some proponents claim, flies in the face of common sense. It is contrary to our understanding of what it is to live. We exercise *free will* whenever we decide to study, work, enjoy ourselves, make a cup of tea, sleep, listen to the radio, watch television, or whatever. In most circumstances, we have a clear choice as to what we may and may not do. We have to decide. We are free to seek answers, to ponder, reason, and discuss with other people our ideas and beliefs. We can sift and study *information* until we reach a plausible conclusion. Whether it is ever *proven* that we have or do not have free will, there is everything to gain by *assuming* that we do. The gift of choice, we referred to in Chapter 5, is precious. As science and technology advance, our choices will widen further. *Choice* is destined to play an even bigger part in our lives than it does now. We have the free will to alter the human condition. Without free will, there is no point in anything, no purpose in our hopes or in the future. This is why it is so important to *assume* that (at least within bounds) we have *freewill*. We have the freewill to use *information* how we wish, and to do with it what we will. Free will is of course a fundamental and essential tenet of religion. Once we have been given free will, we cannot blame a Divine power for all the outrageous atrocities that people are always committing against each other. Only we are the cause of them. Blame for other terrible catastrophes that happen in Nature and by co-incidence, however, cannot usually be so easily apportioned. At least, they seem very often to have little to do with our free will.

### *Learning our lessons*

For each of us, human life is a lesson. It is a lesson in how to cope with an infinite mass of information, knowledge, and mystery. From life we learn (sometimes happily, sometimes painfully) *what* information is and *how* to use it. We choose what we believe are our best routes to follow. Our lessons are both theoretical and practical. From them, we learn *what* to think and *how* to do things. Within our inner circles of family and friends, and with all the travellers we meet on the way, we share information, inspiration, achievement, and setbacks, as well as the indescribable emotions of joy and disappointment that information brings. Our lessons are human experience. And yet, on the school board that stands before us, one vital question is never answered; "*Why* are we here." Our teachers do not know

the answer. Our lessons could be flawed. What we have learned could be wrong. We want an absolute, unequivocal, answer to our one big question. But there isn't one. Immanuel Kant demonstrated that some things are beyond the reach of human knowledge. But, we cannot leave it there. Without purpose and rules to live by, there is no order. There can be no right, wrong, guilt, or reproach. Without order, people are free to do terrible things and are blameless because there is no rule against them. Chaos and self destruction would inevitably follow. Without order, nothing comparable to what human life has achieved would be possible. This, at least, is what we learn from our lessons.

### ***Finding purpose to life***

At first sight, life seems a cruel irony letting us witness and take part in but a tiny fraction of the Universe's story. There is so much that has gone before us and so much that is waiting to happen. With all the marvels unfolding before us, it is an almost unbelievable story. It is pitiful we are condemned to see so little of it. From one tiny minuscule point on Earth, we search back in time to discover what came before us. We try desperately to visualise what is to come. The more knowledge we gain the more insignificant we seem. We feel cheated because what we experience in our lifetime is so minute in comparison with Infinity. We see so little of the total play. We do not know whether it is a comedy, a tragedy; or neither. We have no idea why we are in the play at all. There is no producer to direct us. We do however have masses and masses of *information*. We are left to do with this, and our life, as we wish. We are aware of the self destruction that awaits us if we do not use information wisely. We know the horrors that people can do by misusing information; for self gain, greed, emotion, and other abominations. In contrast, we note with pride some of the splendid deeds of human beings and the indomitable spirit that helps them to achieve success against all odds. While we have *freewill* we have purpose. We can wrestle with conflicting opportunities and problems—of nuclear science, DNA, and IT that have bothered us in our study. We can slay the villain within us and we can find good instead of bad. Whether what awaits us is a glorious future for our souls, as those with Faith proclaim; or whether, at the end of it all, there is a cold nothingness makes no difference. There are generations and generations of people to come. It is of them we should be thinking. We may do this by having descendants and leaving them well equipped and well *informed*. We may do it by demonstrating how to behave and by bequeathing them something we have achieved. No matter what the size and nature of our contribution is, there can surely be no better reason than this. We should aim to leave the Universe in a better state than when *we* arrived. As far as we can see, this is *why* we are here.

### **Back to Information**

#### ***Our most important possession***

*Information* is the principal subject of our study. We have several times wandered from our purpose. Early on in our study we equated information with existence. Because of this it was inevitable that we would ask the two great questions; what are we, and why we are here. Occasionally we have been hi-

jacked by them. Irrefutable answers would, after all, have told us the purpose and meaning of our lives. Hopefully, however, our diversions have not distracted us from the story we wanted to tell. Information is the sum of all that we are and are not. It holds the key to all that we can and cannot do. With the arrival of new information technology, this basic truth has been vividly demonstrated all over again. There is now exuberance and a *free for all* feeling with information that we have never before experienced. There is a new plebianism, a new populism, and a new common denominator. Information is everywhere. It is there for anyone to seize and use as they wish. It is everybody's. It includes not only political chit chat and regional tittle-tattle, but accomplished writings, personal dossiers, mathematical essays, in depth research, learned theses, words of wisdom, musical compositions, or whatever. People look on this information without regard to ownership. It comes free, but it comes with many problems. It is at the heart of the democratic struggle and it is the principal means by which we maintain harmony, law, and order. It *underpins* us and it *undermines* us. We have witnessed many examples of gross misuses and abuses of information, some of which are awesome. They can lead us to destruction. They need to be tackled. The human condition is created by and is reflected by information. We are at its mercy. However, despite this, we have no alternative but to tame and control it. After life itself, information is the most important thing we have. It is the only means we have of acquiring and imparting knowledge, wisdom, and hopefully truth. Belief in this maxim is what we need to instil into peoples' thinking. We must pass it on to our descendants, never be ashamed of it, and never waver.